



**Keywords: Golden Gate™, Torque Wrench, Torx Adapter, Load Limit**

## **P/N GS10504 Torque Wrench and P/N GS10505 Torx Adapter**

On the Golden Gate™ ATR accessory a solid sample is brought into contact with the ATR crystal by pressure on the sample via an anvil. The load to the anvil face is applied by turning a pressure screw mechanism on the Golden Gate™ top plate bridge assembly. There are Mark 1 and Mark 2 versions of Golden Gate™ top plates and the pressure screw mechanisms are different for each type.

To apply a consistent load on the sample for Mark 1 top plates, a torque wrench (P/N GS10504) with a Torx adapter (P/N GS10505) must be used. The Torx adapter fits the Torx screw (6 point star shape) in the top of the pressure screw assembly and allows the pressure screw mechanism to be turned to a torque that has been selected on the torque wrench itself. The torque is measured in units of centi-newton meters (cNm) and the range that can be set on the torque wrench is from 20cNm to 120cNm. The knob of the pressure screw mechanism on a Mark 1 top plate has a knurled edge that allows the screw to be turned by hand without the need for a torque wrench and Torx adapter. However, applying a load to the sample in this way means that the torque setting for the load and hence the pressure that is applied to the sample will not be known.

For Mark 2 top plates, the pressure screw mechanism on the Golden Gate™ bridge assembly incorporates a set torque screw that is approximately equivalent to 50cNm as set on a torque wrench, which applies a load of 80lbs to the anvil and hence to the sample. For Mark 2 top plates a torque wrench and Torx adapter is no longer supplied because the set torque load is sufficient for most samples. There is however, a Torx screw in the centre at the top of the torque screw mechanism, so if the load to be applied to the sample needs to be higher or lower than that from the set torque, the torque wrench (P/N GS10504) with the Torx adapter (P/N GS10505) can be used.